

Claims

- [c1] 1. A method of state maintenance for a MultiMediaCard (MMC) system using a plurality of signals, comprising:
using a working voltage signal to represent a voltage level, which occasionally is less than a preset voltage level due to a voltage fluctuation;
using a low voltage detection (LVD) signal to respond the voltage level of the working voltage signal, wherein the LVD signal is at a first state when the voltage level is greater than or equal to the preset voltage level, otherwise the LVD signal is at a second state;
using an LVD interrupt signal to interrupt a data transferring or receiving, wherein when the LVD signal changes from the first state to the second state, the LVD interrupt signal is issued; and
resetting the LVD interrupt signal, when the LVD signal changes from the second state to the first state, and the LVD interrupt signal is indeed polled by a firmware.
- [c2] 2. The method of claim 1, wherein the first state and the second state of the LVD signal are respectively a high level state and a low level state.
- [c3] 3. The method of claim 1, wherein the step of resetting

the LVD interrupt signal comprises:

using a firmware polling signal, to poll the LVD interrupt signal;

checking whether or not the LVD signal has changed back to the first state; and

issuing an LVD interrupt reset signal to reset the LVD interrupt signal, after LVD signal has changed back to the first state and the LVD interrupt signal has been indeed polled.

[c4] 4. The method of claim 3, wherein the LVD interrupt signal is provided by a bit register.

[c5] 5. The method of claim 4, wherein the step of checking whether or not the LVD signal has changed back to the first state is checking a held value in the bit register.

[c6] 6. The method of claim 1, wherein the step of resetting the LVD interrupt signal is setting the LVD interrupt signal to a zero state.

[c7] 7. The method of claim 1, wherein the voltage fluctuation occurs during a data receiving state at a host side.

[c8] 8. The method of claim 1, wherein the MMC system is based on a flash memory system.

[c9] 9. A MultiMediaCard (MMC) controlling protocol, suitable

for use together with a MMC protocol, wherein a low voltage detection (LVD) signal is used to respond a voltage state of a working voltage with respect to a preset voltage level, the MMC controlling protocol comprising: an LVD interrupt signal, which changes from a first state to a second state when the LVD signal has changed from a normal state to a low-voltage state; a firmware polling signal, to poll the LVD interrupt signal when the LVD interrupt signal has changed from the first state to the second state; and an LVD interrupt reset signal, which is issued after the LVD signal has changed from the low-voltage state back to the normal state and the LVD interrupt signal is indeed polled by the firmware polling signal, wherein the LVD interrupt reset signal resets the LVD interrupt signal.

[c10] 10. The MMC controlling protocol of claim 9, wherein the LVD signal is at the normal state when the working voltage is greater than or equal to the preset voltage level and the LVD signal is at the low-voltage state when the working voltage is less than the preset voltage level.

[c11] 11. The MMC controlling protocol of claim 9, wherein the LVD interrupt signal is a value held in a register.

[c12] 12. The MMC controlling protocol of claim 11, wherein

the firmware polling signal is polling the held value in the register.

[c13] 13. A MultiMediaCard (MMC) controlling protocol, suitable for use together with a MMC protocol, wherein a low voltage detection (LVD) signal is used to respond a voltage state of a working voltage with respect to a preset voltage level, the MMC controlling protocol comprising: an LVD interrupt signal, which changes from a first state to a second state when the LVD signal has changed from a normal state to a low-voltage state; and an LVD interrupt reset signal, which is issued after the LVD signal has changed from the low-voltage state back to the normal state, wherein the LVD interrupt reset signal resets the LVD interrupt signal.

[c14] 14. The MMC controlling protocol of claim 13, wherein the LVD interrupt reset signal further requests that the LVD interrupt signal is also polled before being issued.